Defining contemporary outdoor physical activity: A critical interpretive synthesis

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Abstract

Outdoor physical activities (OPAs) are known to provide economic and social benefits across a number of sectors and industries (Clough et al., 2016; Buckley, 2007; Carpenter, 2013). However, the loosely constructed meanings attached to its various typologies create an ambiguity impacting our understanding of OPA as a holistic term. This study aimed to construct a new, unified definition of OPA, as experienced by adult participants, and develop a conceptual model of shared characteristics that provides clarity and informs practice. Through conducting a Critical Interpretive Synthesis (Dixon-Woods et al., 2006) of existing definitions within academic literature (N=133), three arguments were established. These suggest that all OPAs share characteristics relating to sensation seeking, emphasise the importance of the settings in which they take place, as well as the wellbeing outcomes they offer. A model detailing these arguments is presented and each argument is critically discussed.

Keywords

Outdoor Physical Activity, Critical Interpretive Syntheses, Sensation Seeking, Wellbeing, Definitions

Introduction

A wealth of outdoor physical activity (OPA) literature currently exists which focuses on the economic and social benefits that it creates. These include its wellbeing value to health services (Clough et al., 2016; Rogerson et al., 2015), its revenue supply to the tourism industry (Buckley, 2007) and its social contribution toward achieving policy goals (Carpenter, 2013). These benefits are supported by studies suggesting health and physical activity are amongst the main motivations for visitation to natural green environments around the world (Natural England, 2019; Irvine et al., 2013; Liu et al, 2017; Whiting et al., 2017) and statistics show that the wholesale market for outdoor goods was worth 5.29bn euros across Europe in 2019 (Wood, 2019). Similarly, outdoor recreation made a $374.3 billion contribution to the US Gross Domestic Product (GDP) in 2020 (*Bureau of Economic Analysis*, 2021). Further still, existing studies indicate that outdoor recreation and nature-based activities have been increasing in popularity in developing economies such as China (Zhang & Yang, 2014), South Africa (McKay, 2018) and India (Kent et al., 2012) illustrating the global popularity of OPAs.

Whilst the growing OPA market benefits product developers and service providers, a consequence of this growth is that the OPA field has become increasingly pluralised across various geographical and cultural settings (Breivik, 2010; Lynch et al., 2012). This has created an uncertainty regarding the meaning of definitions used within the field. This can be observed in several ways. Firstly, the wide range of activity types belonging to a single OPA category can display great variance in their characteristics. For example, where Breivik (2010) defines adventure sports as alternative, excitement seeking activities; Houge-Mackenzie and Brymer (2020) point out a spectrum of extremeness between different

53 ‘adventurous’ activities. This suggests that levels of excitement (or adventurousness) are
54 highly variable in this category which raises questions about what activity types qualify as an
55 adventure sport. Secondly, some categorisations closely resemble others creating doubts
56 about which group a particular activity should belong to. For example, Wheaton (2010)
57 describes lifestyle sports as connective, expressive and identity forming activities which are
58 terms also used to describe action sports (Thorpe & Wheaton, 2011). Thirdly, some activities
59 cross categories which are associated with very different outcomes. For example, Krein
60 (2014) defines nature sport as activities in which features of the natural landscape play a
61 primary role in the competitive experience of OPAs whereas those described as green
62 exercise (activities that take place in nature) focus more on their wider wellbeing benefits
63 (Pretty et al., 2005). These are just some examples of how the categories of OPA are vague
64 which impacts our understanding of the roles of the activities assigned to them. In addition to
65 this, the interrelated fields in which we find these activities such as outdoor recreation,
66 outdoor education, sport, and leisure are all susceptible to subjective interpretation (Ateca-
67 Amestoy et al., 2008; Flemsæter et al., 2015; Mikaels et al., 2015). These overlaps and
68 differences between OPA types, their categorisations and their related fields creates a lack of
69 clarity and understanding of OPA as a distinct subset of physical activities within the wider
70 sport, recreation and leisure landscape. This creates potential for conflicting interpretations
71 that could inhibit its utility within these fields.
72
73 For sectors that stand to benefit from OPA such as leisure, tourism, recreation and
74 health, it is critical that the ambiguity surrounding the meaning of OPA be addressed and that
75 a new, holistic definition of the term and model of unified characteristics be presented. As
76 Piggin (2020) notes, holistic definitions are important to help set the boundaries within which
77 identified research problems can be addressed. Creating clarity in this way would also be

instrumental in influencing the development of practices that utilise OPAs amongst adult participants to their advantage by providing a reference point from which to enhance provision. For example, leisure, tourism and recreation professionals could draw upon the attributes and characteristics of OPA when producing and marketing wide ranging products or services to adult consumers. Healthcare professionals who are treating adult patients would benefit from an enhanced understanding of the specific wellbeing affordances highlighted by the model and incorporate this into their prescriptive practices. Further still, the conceptual model could be further tested and applied in future research to investigate the impact of OPA features on the experience for adult participants. This in turn could be used to inform management practices and improve services for clients and resource users. Therefore, the primary aim of this study was to establish an evidence-based definition of contemporary OPA, as experience by adult participants, and articulate its unified characteristics through a conceptual model. A secondary aim was to highlight future considerations for OPA researchers and providers through a critical discussion of the findings.

Method

There is currently a large body of existing academic literature from which definitions of OPA could be used to extract characteristics. As such, a synthesis of the literature was a necessary starting point for this study. To achieve this a Critical Interpretative Synthesis (CIS, Dixon-Wood, et al., 2006) was employed. This method was adopted as it enables the inclusion of both qualitative and quantitative sources in the process thereby broadening the pool of resources that are potentially relevant to meeting the research aims (Dixon-Woods et al., 2005).

In accordance with principles of constructivist grounded theory (Charmaz, 2014), CIS works towards the generation of theory which is articulated through the formation of an interpretive conceptual framework (e.g., Entwistle et al., 2012; Moat et al., 2013; Perski et al, 2017). In working towards this, the seven stages through which CIS progresses (Dixon Woods et al, 2006) were followed and are outlined below.

Formulating a review question and searching the literature

As a starting point a reflexive review question was produced (Eakin and Mykhalovskiy, 2003). This was:

'How has OPA been defined over the 10 year prior to the onset of the covid-19 restriction within academic literature related to adult participation'?

Following this, in order to generate a manageable sample size, sufficiently broad search terms (separated by Boolean operators) which would capture as wide a range of activities that fall under the OPA umbrella as possible were iteratively produced and entered into the Ebscohost, Web of Science, Pubmed, JSTOR, Scopus and Science Direct online databases, these were:

- Physical activity AND outdoor OR
- Physical activity AND outdoors OR
- Sport AND outdoor OR
- Sport AND outdoors OR
- Leisure AND outdoor OR

- Leisure AND outdoors

To ensure that contemporary definitions of OPA could be extracted for analysis, filters were applied to the searches to ensure sources were published between 01/01/2010 and 01/06/2020. Searches between 01/06/2020 and 01/04/2022 were excluded from this study due to the global impact of Covid-19 restrictions on OPA (see Rice, et al., 2020).

The search initially returned 8920 articles that then underwent three screening phases designed to refine the sample into a richer, focused pool of data. Informed by previous exponents of the CIS method (see Patey et al., 2018; Perski et al., 2017), exclusion criteria were applied at each screening phase which proceeded through title and abstract, introduction and conclusion and full paper examination stages respectively (see Figure 1). At each screening phase, justifications for emerging exclusion criteria were debated between all four members of the research team until consensus was reached. Samples of excluded papers were also separated between the research team and checked against the reason for exclusion. Any disputed articles excluded were also discussed until all members were satisfied that the final sample was a true representation of the field under observation. These screening phases reduced the sample to 159 articles which were uploaded into a qualitative research software programme and organised by activity type.

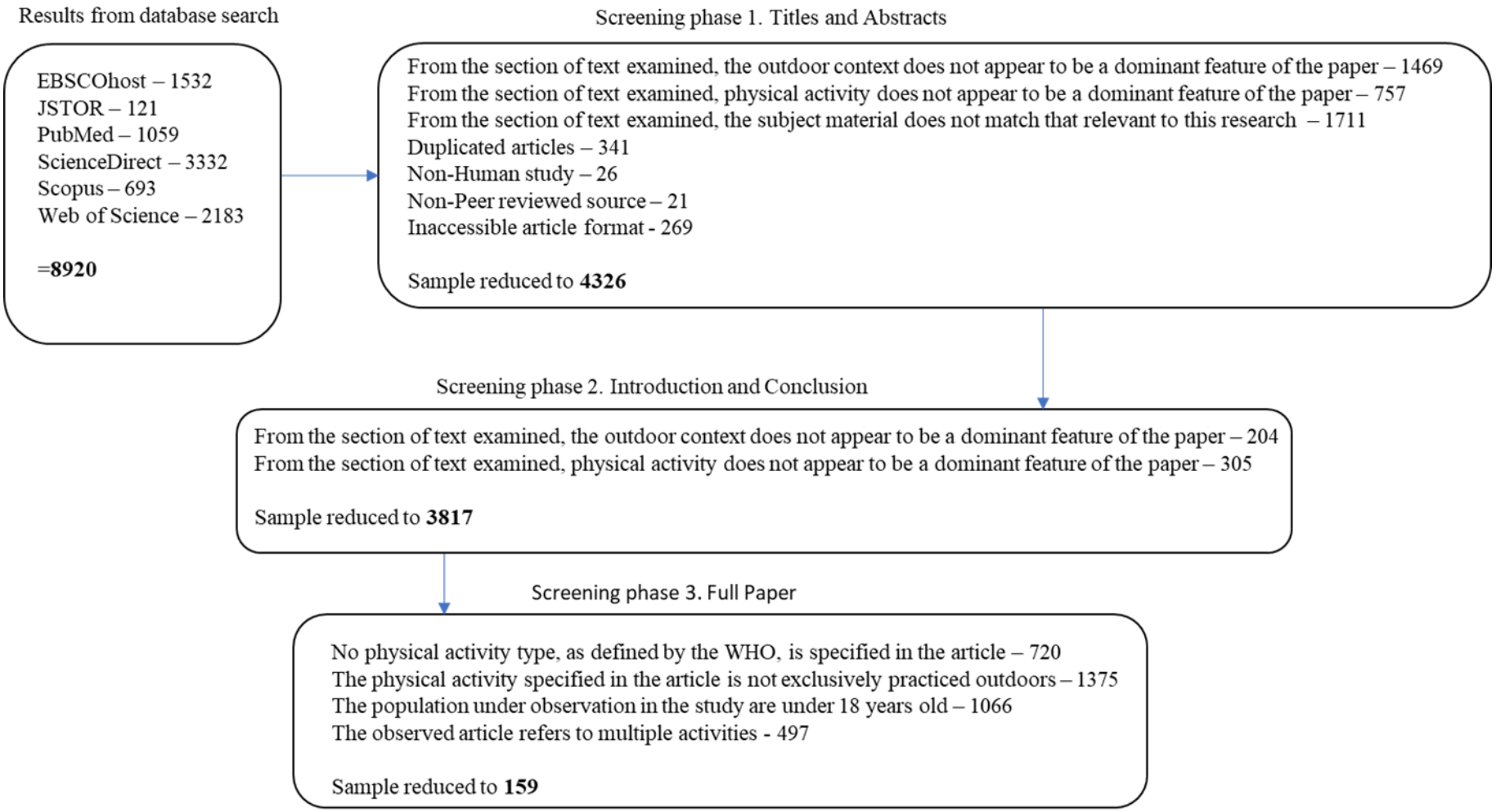

Figure 1. Screening Phases One Through Three.

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Determining quality, Sampling and Data Extraction

Each article included in the sample was reviewed and any section of text where a physical activity was mentioned was copied and pasted into a notes section of a qualitative research software before proceeding to a quality appraisal stage. In the present study, quality was determined by the degree of relevance that each extracted section of text possessed with regards to achieving the research aim in compliance with Dixon-Woods et al (2006). In practice this meant seeking descriptions of physical activities and determining how reliable these were for the purpose of understanding OPA characteristics. To achieve this, a stratified scoring system was developed and agreed across the team of researchers (Table 1). Any articles which did not contain any sections of text that met the quality standard (i.e., an appraisal score of three and above) were excluded from any further stages (Table 2). The quality standard score of three and above was deemed appropriate because the extracted sections of text met either one of two essential criteria to achieve the research aim of understanding OPA characteristics. These were that the authors explicitly offered a definition, or that any interpretable definitions were supported with academic references thereby enhancing their validity. In all cases, the quality index score for papers was assessed independently across the research team and then corroborated through discussion and debate, where agreements on scores were then reached. This quality appraisal stage reduced the overall sample size to 133 articles and therefore acted as a final stage of sample reduction. A full list of included articles can be requested from the investigating author, however a list of the journal publications that presented papers that were part of the final sample (N=133) can be seen in Table 3.

Quality appraisal check	Appraisal score	Included/Excluded
A definition of the activity is explicitly presented and supported with multiple references	6	Included
A definition of the activity is explicitly presented and supported with a single reference	5	Included
A definition of the activity is explicitly presented but has no supporting references	4	Included
A definition of the activity has to be interpreted by the researcher and is supported with multiple references	3	Included
A definition of the activity has to be interpreted by the researcher and is supported with a single reference	2	Excluded
A definition of the activity has to be interpreted by the researcher and has no supporting references	1	Excluded

Table 1. Quality Appraisal Checklist

OPA Type	Number of Articles Included Under Review	Number of Articles Failed to Meet the Quality Standard
Fishing	24	3
Hiking/Trekking/Rambling	20	6
Hunting	20	3
Cross Country Skiing	12	2
Mountaineering	11	1
Canoeing/Kayaking	10	2
Gardening	10	3
Alpine Skiing	9	0
Surfing	9	0
Trail Running	9	1
Nordic Walking	6	1
Mountain Biking	5	1
Rafting	4	1
Sailing	3	1
Scuba Diving	2	1
Disc Golf	1	0
Ice Climbing	1	0
Kite Flying	1	0
Kite Skiing	1	0
Paragliding	1	0
Total	159	26
Total Sample for Data Extraction	133	

Table 2. Included and Excluded Articles Following Appraisal

Journals	Number of Publications Included
Academy of Marketing Studies	1
American Journal of Lifestyle Medicine	1
Animals	1
Annals of Leisure Research	3
Annals of the University of Oradea, Geography Series	1
Applied Geography	1
BioMed Research International	1
Brazilian Journal of Education, Technology and Society	1
Canadian Historical Review	1
Conservation Biology	1
Current Issues in Tourism	1
Dementia	1
Ecopsychology	1
Epidemiology and Infection	1
Estonian Journal of Ecology	1
European Journal of Sport Science	2
European Review of Aging and Physical Activity	1
Fish Sci	1
Fisheries Management and Ecology	4
Fisheries Research	1
Frontiers in Physiology	6
Geographical Review	1
Health Promotion Journal of Australia	1
HERD: Health Environments Research & Design Journal	1
Human Dimensions of Wildlife	7
International Journal of Biometeorology	1
International Journal of Environmental Research and Public Health	1
International Journal of Event and Festival Management	1
International Journal of Injury Control and Safety Promotion	1
International Review for the Sociology of Sport,	1
Journal of Adventure Education and Outdoor Learning	6
Journal of Alpine Research	1
Journal of Biomechanics	1
Journal of Consumer Research	1
Journal of Environmental Management	1
Journal of Experiential Education	1
Journal of Gender Studies	1

Table 3. List of journals with papers included within the sample (N=133) in alphabetical order

Journals	Number of Publications Included
Journal of Health Psychology	1
Journal of Human Kinetics	2
Journal of Human-Animal Studies	1
Journal of Leisure Research	2
Journal of Outdoor Recreation and Tourism	5
Journal of Outdoor Recreation, Education & Leadership	2
Journal of Park & Recreation Administration	2
Journal of Science & Medicine in Sport	2
Journal of Social History	1
Journal of Sport & Tourism	1
Journal of Sport and Health Science	1
Journal of Sports Medicine	1
Journal of Strength and Conditioning Research	1
Korea Journal	1
Leisure Sciences	6
Leisure Studies	1
Leisure/ Loisir	5
Mountain Research and Development	1
New Zealand Journal of Zoology	1
Ophthalmic Epidemiology	1
ORYX	2
Photodermatology, Photoimmunology & Photomedicine	1
PLoS ONE	4
Procedia - Social and Behavioral Sciences	2
Proceedings of the International Congress on Sports Science Research and Technology Support	1
Psychology of Sport and Exercise	1
Remote Sens	1
Respiratory Research	1
Revue de Geographie Alpine-Journal of Alpine Research	2
Russian Journal of Ecology	1
Safety Science	1
Scandinavian Journal of Hospitality and Tourism	1
Scientific Papers: Management, Economic Engineering in Agriculture & Rural Development	1
Sensors	3
Social Science & Medicine	2
Society and Natural Resources	1

Table 3 (Continued). List of journals with papers included within the sample (N=133) in alphabetical order

Journals	Number of Publications Included
Society and Natural Resources	1
Sports Eng	1
Symmetry	1
The American Journal of Sports Medicine	1
The Anthropologist	1
Therapeutic Recreation Journal	1
Tourism Economics	1
Transactions of the Institute of British Geographers	1
Wilderness & Environmental Medicine	1
Wildlife Society Bulletin	2
World Leisure Journal	1

Table 3 (Continued). List of journals with papers included within the sample (N=133) in alphabetical order

Conducting Interpretive Synthesis and Analysis

Using Grounded Theory (Charmaz, 2008) as an overarching paradigm, the remaining extracted sections of text then underwent a staged interpretive process designed to offer unified contemporary characteristics of OPA. In preparation for the synthesis an initial coding process (Charmaz, 2014) was conducted to categorise data into individual units of meaning. In practice this meant seeking the adjectives, verbs or other relevant descriptive terminologies used and coding it as such. For example, if an extracted section of text read; 'Downhill Skiing is a fast-paced, complex and exhilarating sport in which skiers must navigate changeable and dangerous terrain', then the codes downhill, fast-paced, complex, exhilarating, navigate, changeable, dangerous and terrain were created. In this sense, this most closely represents word by word coding (Charmaz, 2014) whereby the specific content, structure and flow of the words are used to make sense of their meaning. This was repeated

for each extracted section of text included in the sample. This was then followed by the first level of interpretive synthesis in which the initial codes from all extracted sections of text were connected and labelled by their shared characteristics using a constant comparative method (Charmaz, 2014). These first level constructs were then interpretively categorised into second level constructs based upon their shared thematic relationships. These second level constructs were then synthesised further into three synthetic arguments (Tables 4, 5 & 6) which represent the connected characteristics described by the themes. At each stage of the interpretive analysis, a verification process was conducted with each member of the research team to ensure the validity of each interpretation and to maintain methodological rigour. This ensured that all four members of the research team agreed that the resulting interpretations were adequately representative of the data examined.

Results

To achieve the research aims of producing a definition of OPA and constructing a conceptual model, the following three synthetic arguments were established through the data analysis and used to inform the critical discussion. These lines of argument are presented in tables 4, 5 and 6. The synthetic arguments produced are:

(1) OPA is associated with sensation seeking behaviours.

(2) The geographical location and naturalness of the settings are of key importance OPA participation

(3) OPA provides a social setting for health, development, personal achievement and growth

Combined, these synthetic arguments show that the nature and characteristics of contemporary OPAs are relatable to three key areas: sensation seeking, the environment and health and wellbeing. A critical discussion of each synthetic argument and their constituent second stage constructs produced in the synthesis are presented below.

Discussion

Synthetic Argument One: OPA is Associated with Sensation Seeking Behaviours

Results from the synthesis establish three interrelated second level constructs that can be associated with the personality trait theory of sensation seeking (see table 4, Zuckerman, 2016). This includes those relating to pleasure, experience seeking, and risk taking. These concepts describe key dimensions of the sensation seeking scale (Zuckerman, 2016); a tool widely used in psychological investigations including those that focus on motives towards adventure and risk based sports (Goma-i-Freixanet et al., 2012). A critical discussion of these constructs and their role in OPA follows.

OPA Provides a Means of Pleasure

Pleasure has been defined as the positive affective response to stimuli that can drive motivation towards the consumption of the source that produced it (Cabanac, 1979). The examined literature in this synthesis connects pleasurable affect to OPA via the extracted

codes of excitement, exhilaration, fulfilment and satisfaction. Alternatively, feelings are an individuals' cognitive appraisals of affective responses which are interpreted on a hierarchy of pleasantness (Berkowitz, 2000). Stated differently, feelings are an individuals' understanding of their own affective responses to given stimuli. In this study, the pleasurable affect produced by OPA is highlighted through the extracted codes of appreciation, peacefulness, leisure (enjoyment) and recreation. Further still, the codes produced of enjoyment, fun and enthusiasm can be linked with a positive emotional state of happiness (Yiend, 2016). Taken together, these codes describe the transition from the affective response produced by OPA through to the experience of pleasure. In this study, pleasure is further highlighted by extracted codes characterising OPA as a hedonic, positive and an immersive leisure practice.

These findings highlight how neurobiological processes and cognitive appraisals of emotional responses can link OPA to pleasure. However, this oversimplifies the complex nature of pleasure itself. Indeed, the social and cultural conditions which surround an individual are likely to impact their conceptualisations of pleasure (Biswas-Diener, et al., 2015). Furthermore, the wide range of possible leisure activities, which can be either passive or active, further highlight that pleasure can be derived from a number of different sources and not just OPA. Moreover, some people will doubtlessly consider OPA to be unpleasant. As such, further research into the specific components of OPA that stimulate pleasure for some and displeasure for others could be conducted. Regardless of the possible differences discussed here, the results of this synthesis show that for the OPA pursuer pleasure is a key motivation.

OPA is a Route to Experience

In alignment with the previous synthetic construct, the experiences discussed here relate to external stimuli and affective responses. However, a key difference is that instead of focusing on the outcome of pleasure, attention is turned to the sources of stimulation and how they shape the experience of OPA. It is important to clarify that the term 'experience' used here refers to the verb and not the noun. That is, experience in the sense of something that happens to someone, or something that someone feels.

Heavey and Hurlburt (2008) suggest that individuals frequently relate their inner experiences to feelings and sensory awareness. Codes extracted from the present synthesis such as environment aesthetics, natural beauty, remoteness of location and environmental conditions suggests that a sensory awareness may be produced by these factors that influences inner experience. From a psycho-evolutionary perspective, these experiences can be linked to Wilsons' Biophilia Hypothesis (Wilson, 1986, Gullone, 2002) a theory often used to describe humanity's subconscious connection to natural environments and the consequential positive biophysical responses (pleasure) modern humans experience when exposed to them.

Whilst these results suggest that external factors associated with OPA environments benefit experiences in the form of a connection to nature, alternative codes extracted from this study show that feelings towards OPA are impacted upon by factors such as the quality of location, time and social attitudes. These draw attention towards the influence of social processes such as commercialisation and urbanisation on the experience (Bell et al., 2007; Tangeland, 2011). Responses to growing consumer demands place control of OPAs, and consequently, the experiences of them into the hands of economic institutions. This

highlights a need for providers to consider the factors that impact on experience in the creation and delivery of services. Furthermore, socioeconomic factors such as income or education highlight inequalities that marginalise underprivileged groups and exclude them from participation (Ghimire et al., 2014). Therefore, any reported experiences of OPA in this study are most likely only representative of a portion of society, most notably those who can afford or access OPAs. To address this issue, and broaden our understanding of the OPA experience, the academic community should conduct investigations that focus on groups excluded from OPA. Ultimately, this could improve knowledge surrounding the biophilic benefits of OPA, especially with regards to the advantages this presents to different socio-economic groups. Building new markets through an increased democratisation of OPA will expand the field and spread the benefits more widely.

OPAs Provide Options for Risk-Taking

Results from this study confirm that OPAs are associated with risk taking as shown by extracted codes referring to characteristics such as dangerous, extreme, trauma or fatality. The results also show that risk in OPA can be separated into distinct adaptive and maladaptive categories (Fischer & Smith, 2004). Codes such as a fatal, accident, drowning or psychological dependence describe maladaptive outcomes mentioned in this synthesis. Alternately, codes such as cardiopulmonary changes, physical pain and temporary cognitive impairment represent references to less severe, adaptive risk-taking practices. These differences in the severity of potential outcomes of risk taking across OPAs show risk takers to be a heterogenous group for which the broad OPA field accommodates. This, therefore, links to Zuckerman's (2016) descriptions of high, moderate and low-level risk-based activities and the individual differences between participants who engage with them.

Indeed, so called ‘extreme’ and ‘adventure’ sports (see Wheaton, 2004) are well covered in existing OPA literature, especially with relation to their risks to health (Caine & Provance, 2018, Laver et al., 2017; Sharma et al., 2015). Whilst the resulting ‘buzz’ or thrill that these activities produce is thought to be a key motivation for participants (Brymer & Scheitzer, 2017), other findings from phenomenological studies suggests motives for participation are more complex and may stem from a desire to fulfil a need for thrill and adventure, have novel experiences or feel relief from boredom (Brymer et al., 2010). Alternatively, some sociological theorists suggest participation in risky OPA is borne from a desire to obtain cultural saliency in postmodern societies that are characterised by risk taking (Lyng, 2009; Beck, 1992) and individualisation (Mythen, 2004).

Though the results of the present synthesis confirm the association of OPA with risk taking, it is important to acknowledge that this is an oversimplification and that the levels, and types of risks taken are certain to vary between activities and participants. Therefore, it is important to emphasise the notion of choice in the range and levels of risks offered across different OPAs. These findings present possibilities for future OPA research to consider activities often overlooked within risk taking studies such as hiking, paddling sports or gardening and perhaps consider their dichotomous ‘safety seeking’ appeal.

Summary of Argument One

Together, the synthetic constructs that formulate the argument that OPAs are associated with sensation seeking behaviours provide evidence that participants use OPAs to experience pleasure. The intensity of sensations vary between subjects and activity type and

360 are achieved via changes in affective states brought about by responses to external stimuli.
361 These stimuli are found to be provided by the nature of the activity itself and the environment
362 in which it takes place. Furthermore, proclivity to risk taking influences the type of OPA an
363 individual may pursue based upon the sensation-based affordances it offers. Thus, OPAs can
364 justifiably be associated with sensation seeking behaviours but what must not be overlooked
365 is the range of types and intensities of sensations that can be derived from this field.
366 Additionally, in order to maximise the accessibility of sensation based OPAs investigations
367 into the social conditions surrounding them would also be of benefit.

Material codes	1ST stage synthetic construct	2ND stage synthetic construct	Synthetic argument
Exciting (116), Immersive (82, 118), Intense (7, 106), Exhilarating (67), Flow (3, 101), Fulfilment (51, 94, 101), Pleasure (3, 24, 45, 51, 62, 67. 71, 110), Satisfaction (31, 39, 41, 49, 80, 82, 85, 116), Stimulation (7, 15, 17, 55, 116, 117)	OPA evokes positive physiological responses	OPA provides a means of pleasure	OPA is associated with sensation seeking behaviours
Appreciation (82), Hedonic (29, 121), Leisure (enjoyment) ((7, 10, 17, 36, 39, 42 48, 53, 67, 68, 69, 71, 82, 87, 89, 93, 94, 112, 116, 131)), Peaceful (60), Positive (94), Safe (106), Adventure (12, 82), Escapism (48, 67, 100), Recreation (2, 9, 10, 11, 12, 16, 17, 21, 27, 30, 31, 32, 34, 35, 36, 37, 39, 40, 41, 42, 43, 45, 46, 47, 48, 49, 52, 60, 61 ,62, 65, 69, 72, 73, 80, 82, 83, 85, 87, 88, 91, 92, 99, 100, 101, 103, 104, 110, 114, 119, 120, 125, 129,)	OPA evokes positive psychological feelings		
Affection (68), Attachment (50, 125), Caring (84), Loving (124), Enjoyment (39), Fun (82), Enthusiasm (68)	OPA evokes positive emotional reactions		
Quality of location (29, 31, 37, 40, 43, 47, 48, 58, 68, 81, 122), Time factors (40, 57), Crowded sites (68), Positive attitude (67), Wanderlust, (69)	External factors impact upon the OPA experience	OPA is a route to experience	
Novel (32, 116), Different (124, 133), Complex (16), Heterogeneous (133), Unique (15, 64), Explorative (116), Transient (124), Freedom (50, 121), Serious (68, 94, 131) Long Distance (67)	Experiential characteristics of OPA attract participation		
Green (57, 58), Scenic (66), Outdoor conditions (6, 18, 25, 28, 58, 59, 117, 133), Aesthetic (25, 43, 52 94), Beauty (60)	Sensory stimulation within OPA impacts on experience		

Controversial (71, 72, 74), Dangerous (14, 15, 82, 110, 122), Extreme (94, 129, 133), Hazardous (16, 94, 96), Lethal (83) , Prolonged (102), Risky (3, 7, 9, 14, 15, 16, 25, 67, 78, 81, 82, 94, 96, 101, 104, 110, 116, 121, 122, 123) Traumatic (7), Violent (71)	Some OPA characteristics link it to risk taking	OPA provides options for risk taking
Incidents (15, 16), Accidents (16, 110), Adverse health advents (7, 30, 31, 104) Drowning (15), Hypothermia (15), Disease (7, 96) Fatal (15), Psychological dependence (36)	Some OPA outcomes link it to maladaptive risk taking	
Pain (9, 129, 133), Temporary cognitive impairment (102), Exhaustion (129), Fatigue (58, 129, 133), Cardiopulmonary changes (7), Hypoxia (7, 102), Sleep deprivation (102, 129), Body impact (7) , Injury (7, 8, 116, 122, 133), Muscle damage (127, 129, 133), Safety (14, 16, 48, 74) Security (14), Strenuous (102), [1]	Some OPA outcomes link it to adaptive risk taking	

Table 4. Line of Argument One; OPA is Associated with Sensation Seeking Behaviours

[1] Bracketed numbers correspond to the article from which the material code was extracted. A list of these articles with corresponding numbers is available to request form the investigating author.

Synthetic Argument Two: The Geographical Location and Naturalness of the Settings are of Key Importance to OPA Participation

Results from the synthesis highlight how the natural environments in which OPAs take place are of key importance in both clear and abstract ways. Here, the global geographic locations and naturalness of OPA settings are discussed, as is the ecological connection between humans and nature via interactions with OPA landscapes (see Table 5).

OPAs Require Varying Degrees of Travel

Evidence from the current synthesis shows that OPAs are globally spread practices through extracted codes referring to numerous countries in which they take place. Furthermore, the range of countries coded shows that OPAs are conducted in both developed and emerging economies. This position of OPAs as globalised practices can be seen to stem from its historical roots in the 18th century in which a new appreciation for the natural environment and the place that humankind had within it was sparked by the influential writings of philosophers such as Jean Jacques-Rousseau (Smith, 1954). During the late 19th century, this appreciation was carried out through the aristocratic practices of visiting scenic locations for OPAs such as skiing, hiking and climbing. These practices marked the emergence of an important sector of the sports tourism industry (Weed & Bull, 2003) which throughout the 20th century saw these pursuits become increasingly democratised as changes in leisure time, life expectancy, income, transportation and social structure developed (Gershuny & Fisher, 1999). The result of this expansion has contributed to the current positioning of touristic OPAs as highly lucrative globalised practices (Janowski., 2021).

Regardless of its widespread nature, this study also shows that despite improved availability, accessibility is likely to remain an economic constraint to many. This is indicated by extracted codes such as mountains, rivers, oceans, and lakes all of which highlight how highly revered locations for OPA are oftentimes the most remote, which may require expensive travel, specialist equipment and particular skill sets to participate (Apollo, 2017; Buckley, 2007; Galloway, 2012). This highlights a paradox in relation to accessibility. Though improved technology, transportation links and leisure time suggest a democratisation of OPAs, they still benefit those privileged with higher economic status, meaning that the commodification of OPA also works to restrict access and create a hierarchy of activity types. Future provision could benefit from research that firstly establishes the reality of such a hierarchy of accessibility to OPA and secondly tests the impact of different activities on groups from varying socio-economic backgrounds. Despite these implied inequalities, the results here show that OPA is of international interest.

OPAs are Practiced Across a Range of Natural and Urbanised Settings

The widespread public demand for OPA based leisure activities necessitates their provision across a range of physical settings. Indeed, this study shows that for the purist, the most natural locations are preferred. This is indicated by the frequency of extracted codes to specific settings such as mountains, rivers, lakes and the backcountry. In addition, the commercial provision of non-urban faux natural settings where features of the landscape are managed for OPAs is highlighted by codes generated such as recreational fisheries, demarcated skiing routes and allocated running trails representing further examples of the diffuse nature of OPAs.

These findings raise questions regarding the commodification of OPAs and the impact this has on those experiencing them. The institutional control of such spaces in postmodern societies potentially negates the adventurous characteristics of OPAs by reducing risk and uncertainty (Varley, 2006). For some OPA participants negotiating boundaries and testing limits is of utmost importance (Lyng, 2004) and so the experience of OPA is controlled by boundary setters who are likely to be influenced by economic or safety concerns. This is potentially detrimental to the quality of the experience for some OPA participants. On the other hand, because motives for OPA participation varies and conceptualisations may differ to those outlined above (Pomfret & Bramwell, 2014), the provision of a range of accessible OPA options by commercial organisations is justifiable and welcomed by many. Future research could examine the perceptions of institutional control in various OPAs and the impact this has on the quality of experience. Regardless, of whether control of these spaces is acceptable, or desirable to its participants, this synthesis highlights that OPAs are practiced and managed across a range of natural and urbanised settings.

OPAs Reflect Principles of Ecology

To contextualise this synthetic construct, it is first necessary to think of humans on the organismic level. From this position the interactions that humans have with the environment during OPAs can be seen as part of a biotic ecological process. In the present synthesis codes generated such as nature experience, stress reduction and attention restoration highlight the salutogenic influence of the environment on human cognitive processes (Bratman et al., 2015; Hartig et al., 2003). Other extracted codes such as animal populations, biomass, biodiversity and habitat illustrate the influence of nature on the settings for OPA.

Additionally, codes describing climactic factors such as seasonality and weather conditions show how the environments in which OPAs take place are further shaped by nature.

Beyond these biotic interactions, OPAs and their settings are influenced by abiotic factors. Codes extracted in this synthesis such as the commodification of nature, the management of land and animal stocks and conservation represent social processes that, for better or worse, shape the OPA experience. Here the ecological harmony suggested above becomes disputable. Considering that sports and recreation are highly consumptive social phenomena (Wheaton, 2004; 2010) suggests that the financial incentive to deliver OPA services may exert social processes that disrupt the natural equilibrium of their environments. Whilst the benefits of OPA are clearly received from the human standpoint, the advantages that they have on the environment are less well understood (Berns & Simpson, 2009). Indeed, the negative impacts of OPA on environmental factors such as a reduction in the abundance of local species (Patthey et al., 2008) vegetation disturbance and rock erosion (Burgin & Hardiman, 2012) have been observed. This raises questions about the sustainability of OPAs and its impact on ecosystems due to the use of, and damage to, land that could otherwise be used to sustain biological life (Daily, 2003; Elmahdy et al., 2017). Regardless of these pitfalls, the current review maintains that the consumption of OPA relies upon biodiverse environments. What should be considered by managers and service providers moving forwards is how best to support these environments through the allocation and/or protection of certain spaces for OPA. Paying attention to these factors will bring sustainability to the market, satisfy consumer needs and adhere to corporate social responsibility demands.

Summary of Argument Two

This synthetic argument shows that OPA has benefits which position it as a service to ecosystems which could, if managed appropriately, serve to maintain the natural environments in which they take place. Furthermore, the maintenance of these locations serves an economic purpose via the upkeep of tourism facilities. However, the constraints associated with access to remote locations forces some participants to take up OPA in confected settings that are closer to home. What is clear, is that whilst the geographic location and naturalness of OPA settings positively impacts upon the experience, the attraction to natural environments is strong enough to drive the creation of faux natural settings to enable more convenient access to OPAs. That these environments are seemingly satisfactorily imitable raises questions about the superficiality of the human/nature relationship. This presents intriguing possibilities for future research into the differences between natural OPA settings and their faux counterparts.

Material Codes	1ST stage synthetic construct	2ND stage synthetic construct	Synthetic argument
Rivers (29, 44, 112, 113), Lakes (30, 35, 37, 46), Islands (114), Seas/Oceans (14, 16, 17, 43, 44, 46, 114, 123,), Mountains (7, 27, 29, 57, 58, 60, 68, 69, 93, 95, 99, 103, 133), National Parks (29), Revered locations (29, 62. 62, 69, 78, 101, 108, 112)	Some OPA locations present access issues	OPAs require varying degrees of travel	The geographical location and naturalness of the settings are of key importance to OPA participation
Austria (69), Canada (10, 25), Denmark (15, 72), England (44), Estonia (46), Finland (25, 24, 108), France (97, 132), Germany (31, 49, 69), Hawaii (119), New Zealand (60, 71, 73), Norway (11, 78), Portugal (49), Russia (75, 80), South Korea (68), Sweden (74, 78, 80), United Kingdom (32, 44, 55, 94, 101, 104), United States (31, 32, 45, 48, 49, 55, 64, 70, 71, 74, 83, 113, 122)	OPAs are popular in countries with a high human development index score		
Jordan (80), Mexico (79), South Africa (82), Sri Lanka (112), Taiwan (12, 65)	OPAs are emerging in developing countries with a moderate to low human development index score		
Backcountry (21, 60), Cross-country (18, 19, 20, 22, 24, 25, 26, 109) Beaches (125), Coasts (43, 122), Deserts (133), Forests (79, 133), Marines (166), Meadows (106), Off-road (92, 94), Open-water (37), Reefs (43), Seashores (114), Underwater (116), Salt-water (48), Fresh-water (35, 48), White-water (12, 112)	The naturalness of the environment is emphasised in some OPAs	OPAs are practiced across natural and urbanised settings	

Allotments (52), Bridleways (92), Gardens (50, 52, 53), Hunting Grounds (78), Neighbourhoods (52), Asphalt (106), Parks (87, 90),	OPA practice extends to urbanised settings	
Courses (113), Fisheries (30, 35, 36, 37, 39, 40, 43, 46, 47, 48, 19), Routes (27, 129), Tracks (27, 59), Trail (23, 93, 129, 130), Towpaths (94), Runs (7), Ranches (82), Reserves (79), Slopes (27), Surf zones (119)	OPA is conducted in managed settings	
Animal stock abundance (35, 46, 49, 74, 79), Animal populations (79, 82, 83, 87), Animal behaviour (79, 81), Biodiversity (75), Biomass (81), Plants (50, 56), Predators (74, 81), Species (29, 36, 39 43, 46, , 73, 79, 80, 82, 83, 86, 87), Habitats (29, 48, 80), Ecological equilibrium (74, 75), Food (48, 50, 72, 82, 83, 86), Medicine (86) Wildlife (48, 72, 74, 82, 83, 84, 86, 87)	Biotic environmental factors impact on OPA settings	OPAs reflect principles of ecology
Meteorological factors (129, 133), Climate (6, 25, 46), Conditions (6, 7, 15, 16, 25, 85, 124, 129, 133) Weather conditions (15, 16, 65), Ice (34, 46), Snow (7, 16, 19, 21, 22, 25), Wind (15, 19), Sun (120), Seasonal (25, 37, 43, 85, 86, 88, 113), Summer (10, 109), Winter (2, 7, 25, 46), Temperature (7, 88), Ultra-Violet rays (123), Waves (122, 125), Topography (129), Natural events (110), Avalanches (16, 98)	Climatic abiotic factors impact on OPA settings	
Agriculture (75), Animal population management (36, 43, 47, 48, 71, 75, 82, 85, 87), Pollution (125), Environmental attitude (71), Conservation (28, 42, 48, 68, 72, 73, 75, 117), Environmental protection (27, 53, 60, 75), Commodification of nature (10, 17, 49, 82, 86, 87, 110, 113, 124), Social ecology (108), Human impact (80, 81), Human behaviour (24, 29, 36, 37, 40, 41, 42, 47, 71, 74, 116), Human consumption (37, 40,	Social abiotic factors impact on OPA settings	

	44, 47, 49, 77, 81), Overfishing/overhunting (35, 46, 49, 79), Recreational hunting (31, 45, 43, 49, 71, 72, 73, 74, 75, 77, 78, 80, 81, 82, 83, 84, 87)	
	Nature experience (31, 52, 56, 60, 64, 67, 72, 82, 94, 124), Attention Restoration Theory (56, 64, 113), Biophilia (7, 10, 44, 50, 56, 64, 69, 76), Stress Reduction Theory (7, 52, 64, 113), Connection to nature (24, 50, 52, 56, 64, 67, 69, 82, 94, 118, 124), Environmental attitudes (71), Dominance over nature (71), Human interaction (52, 56, 95), Changing environments (129), Instinct (71), Biology (10, 40), Human nature, Predators (71), Prey (47, 81)	OPA affords opportunities for human/nature interactions

Table 5. Line of Argument Two; The Geographical Location and Naturalness of the Settings are of Key Importance to OPA Participation

Synthesised Argument Three: OPA Provides a Social Setting for Health, Development and Achievement

Remaining results from this synthesis highlight three interrelated constructs pertaining to the physical, mental and wider developmental benefits of OPA (see table 6). Here, the salutogenic health service properties of OPAs along with their psychological wellbeing value are discussed (Buckley et al., 2018; Frühauf et al., 2016). Furthermore, the general wellbeing which is fostered through OPA (Houge-Mackenzie & Hodge, 2020) by providing sites for socialisation, creativity and spirituality (Ward-Thompson, 2016) are examined and linked to the landscapes in which OPAs take place. The variability of location type, their use and in the social conditions influencing them are also covered in this discussion (Bell et al., 2018).

OPAs Provide Opportunities to Develop Physical Wellbeing

Codes generated in this synthesis linking OPAs to heart and lung health, body composition, biomechanics, immunology and disease prevention highlight the physiological health benefits of physical activity that have been acknowledged since the time of the ancient Greeks (Hardman & Stensel, 2009; Blair & Morris, 2009). Additionally, codes referring to altitude and changes in ground conditions suggest that the physical and topographical features of some OPA environments present biomechanical challenges which impact on their physical wellbeing value (Dosek et al., 2007; Fjortoft, 2004)

Today, exercise for physical health is known as essential for cardiorespiratory functioning (Cheng et al., 2003; Shiroma & Lee, 2010), maintaining healthy body weight (Swift et al., 2014), muscle strength (Hardman & Stensel, 2009) and immune system

responsivity (Duggal et al., 2018). However, this biological explanation of the advantages of physical activity does not account for important individual and social processes that impact on uptake and adherence which is essential for the benefits to be received. Indeed, it is recognised that the physiological benefits of exercise are best supported by regular activity (Reiner et al., 2013; Swift et al., 2014). As such, providing spaces that promote such behaviours is important to consider (Davids et al., 2016). In addition, research into exercise adherence shows that the social interaction afforded by OPA positively impacts on intentions to repeat the activity (Rogerson et al., 2016) as does increased enjoyment of exercise in these settings (Focht, 2009). Furthermore, lower perceptions of exertion during OPA can have a positive impact upon motivation to repeat activities and also increase the length of time exercising (Gladwell et al., 2013). Resultantly, the great outdoors is considered to provide environments that afford wider opportunities to promote physical wellbeing. In order to maximise the health advantages noted in this synthetic construct, health and wellbeing practitioners along with academic research should consider how these benefits of exercise in the outdoors may best be prescribed.

OPAs Contribute Towards Improving Mental Health and Wellbeing

The mental health benefits of OPA are widely acknowledged in contemporary wellbeing research (see Thomsen et al., 2018; Tillmann et al., 2018). Investigations into its therapeutic qualities show its anxiolytic properties (Lawton et al., 2017; Mackay & Neill, 2010; Pretty et al., 2007) and its mood enhancing value in treating depression (Christensen et al., 2013; Frühauf et al., 2016). Furthermore, its stress reducing capabilities (Aspinall et al., 2015) suggest OPA has a role in the prevention of mental health illness and enables human flourishing linking it to positive psychology (Gable & Haidt, 2005).

Results from this study confirm this association as many extracted codes that formulate this synthetic construct can be linked to dominant theories explaining OPAs' mental health value. For example, codes referring to changes in affective and emotional states as well as feelings of revitalisation, relaxation and restoration can be linked to Ulrich et al.'s (1991) stress reduction theory or Kaplan and Kaplans' (1989) attention restoration theory. Furthermore, the extracted codes of connection, family, friendship, socialisation and identity can be linked with benefits thought to occur through enhanced relatedness to nature (Mayer & Frantz, 2004; Nisbet et al., 2009). Central to these theories is the role of the natural landscapes. In this synthesis the importance attributed to these is shown by extracted codes such as spectacular views, natural beauty, pleasant surroundings, place attachment and peaceful landscapes.

As with previous synthesised arguments, differences between activity types should not be overlooked when considering their mental health value. For Buckley et al. (2018), in order to elevate OPA based therapies from privately prescribed treatments into the mainstream healthcare system, a greater understanding of how activity type, intensity, frequency and duration might be matched to patient symptoms, personality, interests and capabilities is required. Such investigations would advance those conducted in traditional physical activity settings such as those reviewed by Teychenne, Ball and Salmon (2008) which provided insight into the influence of exercise dose on the likelihood of depression in adults. This highlights a potential direction in which OPA research may fruitfully progress. Utilising OPA more efficiently as a therapeutic practice may have important public health and economic implications.

OPA Generates Opportunities for Self-Development and Achievement

This synthetic construct extends the health focused discussion by examining the broader self-developmental opportunities generated by OPA. This synthesis links such processes to achievement goal theory (see Ntoumanis, 2001; Senko et al., 2011), self-determination theory (Deci & Ryan, 2008) and Maslow's hierarchy of needs (Maslow, 2013) through extracted codes such as training, endurance, commitment, dedication and performance. Furthermore, codes generated such as education, experience, skill attainment, mastery and success suggest objective measurements of achievement are present in OPAs. Further still, codes referring to the complex, challenging and specialised characteristics of OPAs highlight the presence of opportunities for achievement in OPA settings.

However, implicated within these findings is the influence of social perceptions of achievement. The experience of achievement and the routes to it may differ depending on an individuals' cultural background (Meissel & Rubie-Davies, 2016; Trumbull & Rothstein-Fisch, 2011). Furthermore, sports and physical activities are ever-evolving socio-historically and culturally influenced pastimes (Jarvie, 2011) which raises questions regarding the temporality of perceptions of achievement (McEwan, 2016). Whilst some OPAs adhere to modern sport characteristics as described by Guttmann (2000), others such as skating, surfing and snowboarding deviate from such constructs (Wheaton, 2007). Indeed, sometimes these differences can be observed within the same sport such as mountain biking (see McEwan & Weston, 2017; McEwan et al., 2018). Despite the noted possible variances, this synthesis indicates that OPA facilitates self-development and offers numerous routes to achievement measured either subjectively or objectively, or as a combination of both. This

individualisation and plurality of developmental outcomes presents OPAs as postmodern pastimes that enable autonomy and self-expression (Bauman, 1988). Further research could be conducted that examines perceptions of achievement across a range of OPAs within different cultural settings. Such an understanding could encourage managers to deliver innovative OPA practices to foster self-development and achievement. Such activities could be utilised to improve productivity amongst workforces as well as build new market opportunities.

Summary of Argument Three

This synthesised argument suggests that OPA creates wider opportunities to promote physical wellbeing. It also shows that mental wellbeing is stimulated through the stress reducing and restorative properties of the environments in which OPAs take place. Finally, it shows that self-achievement is obtainable via a broad range of activities in ways which diverge from traditional methods associated with modern sport. Currently, there is a limited understanding of the role of individual differences and the impact that intensity, frequency, duration and type has on these benefits highlighting possible avenues for future research.

Material codes	1ST stage synthetic construct	2ND stage synthetic construct	Synthetic argument
Aerobic (68, 109) , Anaerobic threshold (105), Arm motion (19), Arterial pressure (63), Biomechanics (19, 20), Blood lipid profile (7), Body fat (7, 63, 105), Caloric expenditure (106), Cardiovascular response (108), Glucose (7) , Heart rate changes (106, 127), Hypercholesterolemia (7), Hypertension (7), Immunity (63), Metabolic response (7, 109), Nutritional need (40, 82), Oxygen intake (105, 106, 109), Recovery (7, 19, 23, 54, 113), Reflex (7), Resistance training (109), Respiratory improvements (63), Sustenance (71), VO2 max (126), Physical workload (113), Body (9, 18, 19, 22, 68) Bones (63), Forearm (19), Legs (19), Limbs (109), Muscles (7, 63, 105, 107, 109, 127, 130), Skeleton (7, 9), Active (76, 87, 116), Activity (7, 10, 14, 15, 17, 25, 26, 27, 30, 31, 32, 34, 36, 39, 42, 45, 46, 47, 48, 49, 50, 52, 55, 58, 59, 60, 61, 62, 63, 64, 65, 67, 68, 69, 70, 71, 72, 77, 79, 82, 86, 87, 89, 91, 93, 94, 96, 100, 103, 104, 105, 106, 108, 109, 110, 112, 113, 116, 117, 118, 119, 120, 121, 123, 124, 125, 131, 133), Cardio (17, 25, 54, 63, 105, 106, Exercise (1, 7, 18, 19, 22, 51, 54, 57, 62, 102, 106, 109, 116, 127, , Fitness (7, 61, 108), Low impact (26, 108), Moderate intensity (108), Physical (26, 58, 64, 66, 71, 87, 100, 106, 113, 116, 118, 133), Rigorous (133), Diabetes (7), Diet (50), Disease (54, 55, 63, 87, 106), Healing (56), Life expectancy (63), Prevention (117), Rehabilitation (106, 117), Therapeutic (52, 55, 117), Weight control (63)	The active nature of OPAs impact on physical wellbeing	OPAs provide opportunities to develop physical wellbeing	OPA provides a social setting for health, development and achievement
Altitude (7, 57, 58, 59, 102, 129), Ascent (7), Elevation (133), Ground quality (106, 109), Hilly (22, 127), Incline (7, 126), Rugged (66), Surface (7, 9, 126), Terrain (18, 22, 64, 129,	The topographical features of OPA settings add to its physical health impact		

133), Uphill (127)		
Reductions in anxiety (58), Stimulating (55), Lowering likelihood of depression (54), Interventions for mental health (52), Improving stress issues (7, 25, 52, 54, 63, 67, 117, 133), Memory Deficit (7), Motivation (12, 17, 30, 31, 39, 48, 52, 67, 71, 82, 94, 101, 111, 116, 117, 133)	OPA has potential as a treatment for mental health issues	OPAs contribute towards improving mental health and wellbeing
Affective states (58), Autonomy (129), Social bonding (53, 64), Connectedness (64, 67, 124), Camaraderie (82), Character building (94), Coping (41, 116), Empowerment (52), Escapism (48), Family bonding (32, 48, 53, 64, 82, 84), Overcoming fear (67), Friendship (64, 74, 82 84), Identity formation (10, 24, 34, 84, 94, 111, 121), Life reform (69), Lifestyle , Improved quality of life (63, 117), Rejuvenation (68), Relaxation (31, 48, 54, 82, 119), Restoration (17, 56), Revitalisation (58), Social connection (50, 64, 82, 84), Socialisation (53, 117, 119), Vitality (128), Cognition (41, 52), Emotional state (24, 52, 94, 118), Perceived exertion (105, 108), Inclusivity (117), Mental hardship (66), Patience (71), Psychology (7, 31, 49, 56, 67), Reward (66, 82), Self (52, 63, 82, 94, 117, 129), Solitude (60)	OPA participation can contribute towards mental wellbeing	
Landscape for peacefulness (60), Land as a preservation of cultural identity (50, 84), Place attachment (24, 44, 100, 118, 125), Beauty (67), Pleasant surroundings (58), Scenery (58), Spectacular view (66), Natural surroundings (58)	The natural environments in which OPAs take place contribute towards its mental health and wellbeing value	
Adapting (76, 113), Adjustment (15), Attitude (52, 74), Attuning (15), Movement patterns (7, 20, 21, 81), Reaction	Self-development in OPA is a pathway to achievement	OPA generates opportunities for self-development and

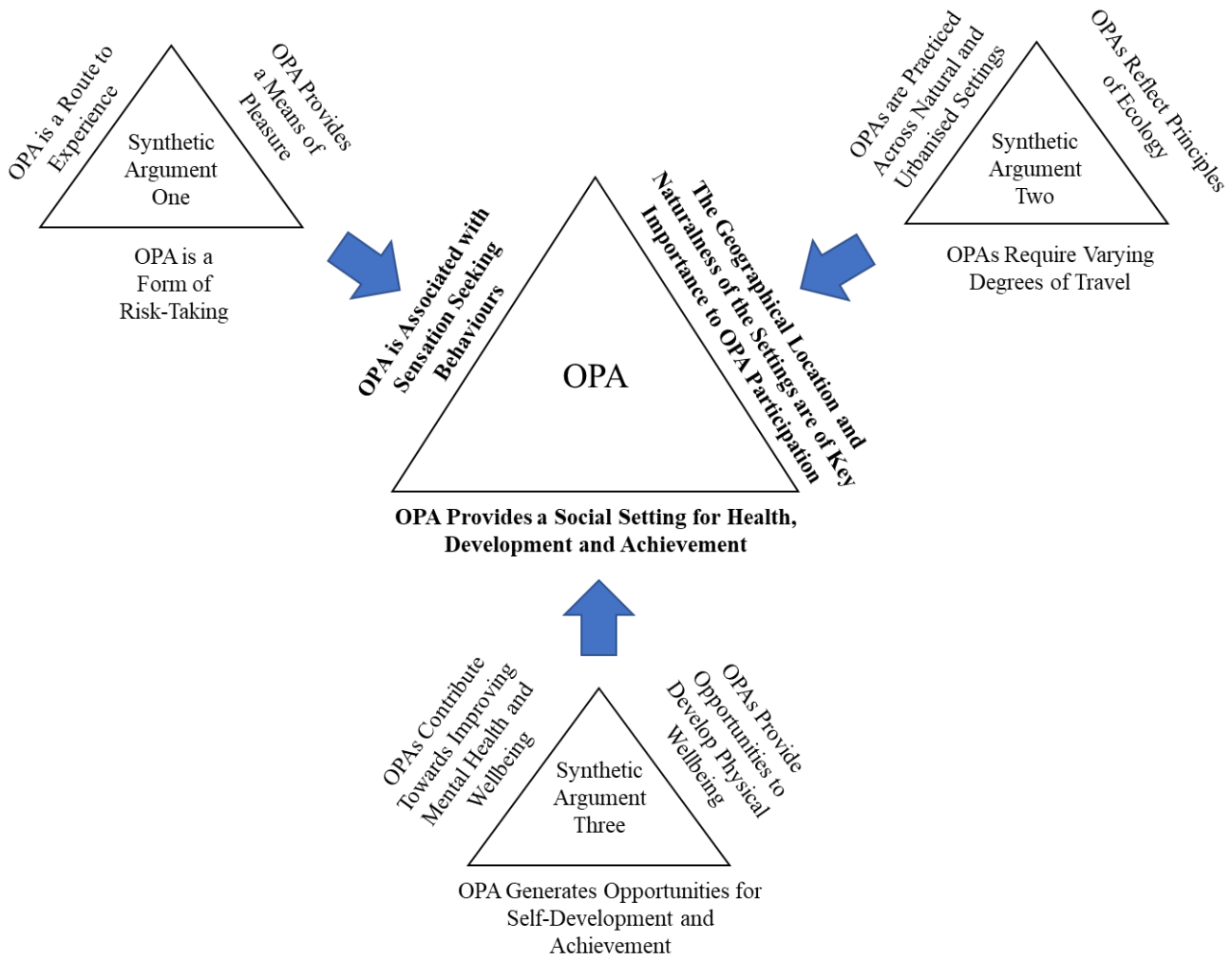
time (9), Performance (4, 7, 8, 9, 15, 24, 68, 78, 93, 106, 110, 117, 126, 127, 128, 129, 133), Continuum (114), Beginners (132), Competences (115), Journey (90), Leadership (108, 117), Lessons (116), Novice (114) , Program (108) , Socialisation (48, 71, 74), Training (15, 74, 105, 106, 108, 128, 129, 130, 133), Challenge (67, 94), Commitment (36, 39, 52), Dedication (69, 122, 125), Effort (122), Endurance (18, 19, 22, 105, 129, 133), Hardship (66), Time investment 34, 122, 125)		achievement
Accomplishment (67) , Achievement (67, 80, 82, 100, 111), Confidence (52, 63, 116), Skill (2, 7, 9, 16, 17, 26, 30, 48, 50, 67, 82, 85, 113, 117, 119), Coordination (7, 71), Education (10, 48, 60, 69, 74, 86, 87, 125), Elitism (128, 132), Experience (16, 17, 48, 71, 74), Expertise (15, 114, 132), Habituation (69), Knowledge (30), Learning (15, 52, 125), Mastery (67, 119), Success (30, 74), Wisdom (69)	Achievement in OPA may be subjective	
Challenging (17, 94, 117, 129), Complex (1, 7, 19, 20, 115), Demanding (15, 18), Difficult (93, 119), Diverse (117, 133), Time dependent (57, 58, 59), Guided (7, 108, 113), Repetitive (7), Specialist (12, 16, 32, 36, 39, 48, 73, 93, 114), Superior (109), Taught (108), Technical (25, 95, 127), Ultra-intense (129)	The physical and technical characteristics of OPAs produce opportunities for self-development and achievement	

Table 6. Line of Argument 3; OPA Provides a Social Setting for Health, Development and Achievement

MOPAC model

The analysis presented in the discussion above provides a detailed and deeper analysis of the nature and characteristics of OPA. This significantly advances the contemporary ontology around this subject matter by drawing together contemporary definitions of OPA, as related to adult participants. While this research presents a unique and novel conceptualisation of OPA with its tripartite elements, these should not be viewed in isolation. It is their interrelated nature that should be considered. For example, where a form of OPA presents the opportunity to experience excitement it is often the environment and setting in which the activity takes place that enables the participants to feel the thrill of the activity (e.g. ski slopes, river rapids, etc). Likewise, the natural and relaxing characteristic of the green spaces can be the factor that enables OPA to enhance an individual's wellbeing. In completing the loop, engaging with sensation-based activities like OPA can also allow individuals the opportunity to escape everyday life and become refreshed.

Drawing on the themes explored within this research, a conceptual model entitled the Model of Outdoor Physical Activity Characteristics (MOPAC, see figure 2) has been developed. This depicts the connected nature of the tripartite elements that constitute OPA. In reflecting the interpreted synthetic arguments that have been developed through this research, along with their constituent constructs, the MOPAC model has been tentatively proposed as a theory that describes OPA.



626

627 *Figure 2. The Model of Outdoor Physical Activities Characteristics*

Areas for Future Research

This research provides a foundational understanding of the OPA that draws together contemporary definitions of what OPA represents. However, this research also opens up the possibility of future research in a range of areas. In proposing the MOPAC, based on the three synthetic arguments proposed within this study, this will still require further testing to establish its validity. It is argued that to move this area of research forward the lived experience of OPA participants should be explored to establish how their engagement with their activity aligns to each of the tripartite areas of the MOPAC model. It could also be argued that within sport, even when they are similar in nature can connect in differing ways to each of the three characteristics displayed within the model. While some research has been done in this broad area of study (e.g. in mountain biking see McEwan, 2016: McEwan & Weston, 2017; McEwan, et al., 2018), the MOPAC model provides a framework through which OPA can be further explored and better understood.

This research also focuses on adult participation in OPA and it would be of interest to explore this same dynamic among participants under 18 years of age. This would then allow for consolidated definition of OPA to emerge. As a final consideration, participation in OPA has changed through the influence of the covid-19 pandemic and the associated lockdowns that occurred. Future research on the nature of OPA in the post pandemic era could use the MOPAC module as guide for exploring the nature of any change that has occurred.

Conclusion

This critical interpretive synthesis spanning the last 10 years of academic literature establishes that three arguments can be put forth as integral to defining OPA. These are that

OPA is associated with sensation seeking behaviours, that the geographical location and the naturalness of the settings are of key importance and that it provides a social setting for health, wellbeing and development. It is tentatively argued that the MOPAC presents a theory of OPA that suggests these constructs are central to contemporary conceptualisations of this field.

As is shown in the MOPAC results indicate that the nature and characteristics of OPAs are drawn from their pleasurable, experiential, risk-based attributes and their wellbeing benefits stem from their interactive qualities and nature-based settings. Accordingly, the authors present the following holistic definition of OPA:

'Outdoor Physical Activities are a heterogeneous subset of physical pursuits of variable intensities which place an emphasis on their alternative routes to experiential, physiological and psychological wellbeing outcomes. Such outcomes are primarily facilitated via the changeable, connective and stimulating nature of the outdoor environs in which they take place'

The findings of this study are of particular relevance to economic sectors such as the leisure and tourism industry, sport and recreation businesses and health and wellbeing services. From this position of renewed awareness, OPA providers can develop products, practices or services. For example, product designers may investigate how best to cater for a market to whom sensation seeking, natural environments and wellbeing are important. Furthermore, they might consider to what degree risk, pleasure or experience seeking are motivators and how they might deliver this. Leisure and tourism companies might develop environmentally sustainable settings and activities to satisfy users' desire for ecological

harmony. Additionally, they might offer sufficiently natural faux alternatives or incorporate nature into existing settings (gyms and leisure centres for example). Health providers may extend services to include a greater range of outdoor pursuits as alternatives to costly synthetic medication. Additionally, fitness professionals might better utilise natural settings for the holistic development of athletes' wellbeing. In summary, what is clear from the present synthesis is that OPAs have an enormous reach and present many benefits to many people. What needs to be established moving forward is how best to operationalise them to maximise their great utility.

Limitations

It is acknowledged that the synthesis presented here is representative of a sampling frame established through rigid processes that were necessarily exclusionary. As such, not all OPAs made it through the strict inclusion criteria and into the final sample. Most notably this meant that activities which have come to be practiced indoors, despite having strong associations with the outdoors were excluded from the study. As such, any assertions made regarding the characteristics of OPA apply only to those that occur outdoors.

Declaration of Interest Statement

The authors report there are no competing interests to declare

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1033 Figure 1. Screening Phases One Through Three

1034 Figure 2. The Model of Outdoor Physical Activity Characteristics (MOPAC)